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PATENT ABSTRACTS OF JAPAN

(11)Publication number : 03-277411

(43)Date of publication of application : 09.12.1991

(51)Int.Cl. B23B 49/00
 B23B 41/00
 B23Q 17/24
 H05K 3/00

(21)Application number : 02-076198

(71)Applicant : SEIKOSHA CO LTD

(22)Date of filing : 26.03.1990

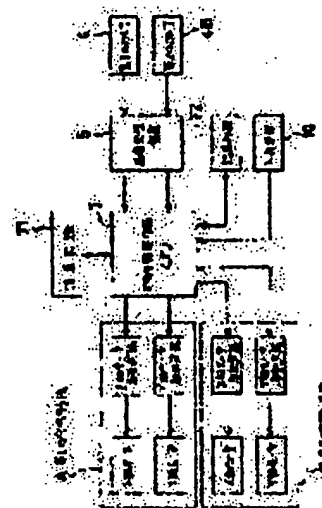
(72)Inventor : ARAKI MASATOSHI
 OKUDA KIYOSHI

(54) DRILLING METHOD FOR PRINTED BOARD AND DEVICE THEREFOR

(57)Abstract:

PURPOSE: To correct an error and to shorten a working time, by detecting two patterns for discriminating a drilling position, calculating the gap between patterns and perforating two holes simultaneously with the bisection of the error with the gap of the hole to be drilled.

CONSTITUTION: The light emitted from the light projection means provided at the oblique lower part of a table is projected toward a printed board and the pattern for discriminating a perforating position is picked up at its image by the TV cameras 4, 4B provided at the upper part of the table. The picked up image signal is processed by a picture image processing device 5, the center position thereof is detected and the detection value is fed to a perforating control circuit (CPU) 7. The operation is performed by an arithmetic circuit 71 according to the detection value, the calculation value thereof is fed to the CPU 7 and stored in a memory circuit 72. The control of the driving of the XY table of drilling means A, B is performed by the CPU 7, also the input of the gap L, etc. of the hole to be drilled can be performed from an input device 10 in advance on the CPU 7 and stored in the memory circuit 72.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

(11)公告編號：183300

(44)中華民國81年(1992/05/01日)

(51)Int. Cl. : H05K7/06

發明

第 6 頁

(54)名 稱：印刷基板之穿孔方法及其裝置

(21)申請案號：80101968

(22)申請日期：中華民國80年(1991)03月12日

(72)發明人：

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(71)申請人：

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(74)代理人：林敏生 先生

第 90100355 號
初審(許願)引証附件
再審

[57]申請專利範圍：

1. 一種印刷基板之穿孔方法係依據予先形成於印刷基板之至少2個穿孔位置識別用模形，經1對穿孔裝置穿孔之方法，其特徵為：

將上述印刷基板之2個穿孔位置識別用模形，各以設置於上述1對穿孔裝置之TV攝影機攝影，

依據上述各TV攝影機攝影之畫像信號以畫像處理裝置檢出上述各模形之位置，

依上述各模形位置之檢出值算出上述模形間之間隔，

算出予先記憶之應穿孔之孔之間隔與已算出之上述模形間之間隔之誤差，

將上述誤差予以2等分算出自上述模形各只補正上述2等分値之穿孔位置，

將各設在上述各穿孔裝置之XY檯上之穿孔構件移動，至上述各穿孔位置進行穿孔。

2. 如申請專利範圍第1項所述之印刷基板之穿孔方法中，含將具有以所定間隔穿孔之二個孔之標準量規之上述二個孔用上述1對TV攝影機攝影，以上述畫像處理裝置檢出上述二個孔位置，依據上述檢出值算出

上述1對TV攝影機之間隔之過程。

3. 一種印刷基板之穿孔裝置，係依據予先形成於印刷基板之至少2個穿孔位置識別用模形之穿孔之裝置中，具有

5. 具備於XY檯上之穿孔構件，及經上述穿孔構件與上述印刷基板相對設置各具有可攝取上述印刷基板之模形之TV攝影機，相對可移動之1對穿孔裝置，及

10. 依據上述TV攝影機攝影之畫像信號檢出上述模形位置之畫像處理裝置，及

15. 依上述各模形位置之檢出值算出上述模形間之間隔，算出予先記憶之應穿孔之孔之間隔與已算出之上述模形間之間隔之誤差，將上述誤差2等分自上述各模形各只補正上述2等分値之穿孔位置之演算回路，及

經上述XY檯將穿孔構件移動至上述穿孔位置，於上述穿孔構件行施穿孔之穿孔控制回路。

20. 4. 如申請專利範圍第3項所述之印刷基板之穿孔裝置中，具有以所定間隔穿孔之二個孔之標準量規，

上述畫像處理裝置，更具備檢出以上

述 1 對 TV 攝影機所攝影之上述二個孔之位置之機能。

上述演算回路，更具有依據上述二個孔之位置之檢出值算出上述 1 對 TV 攝影機之間隔之機能。

圖示簡單說明：

第 1 圖係沿第 3 圖 E - E 線將局部斷面之平面圖。

第 2 圖係表示同上之第 1 穿孔裝置 A 之局部剖開之正面圖。

第 3 圖係第 2 圖 F - F 線擴大斷面圖

第 4 圖係第 3 圖 C - C 線斷面圖。

第 5 圖係第 2 圖 H - H 線擴大斷面圖

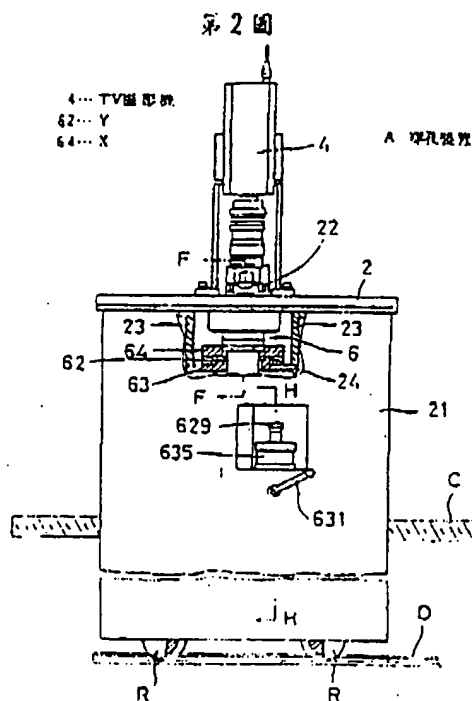
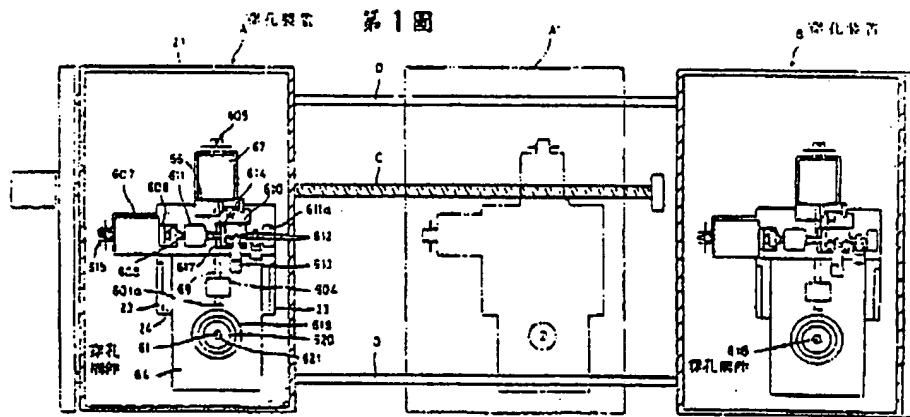
第 6 圖係本發明之裝置之方塊圖。

第 7 圖係說明本發明之動作之流程圖

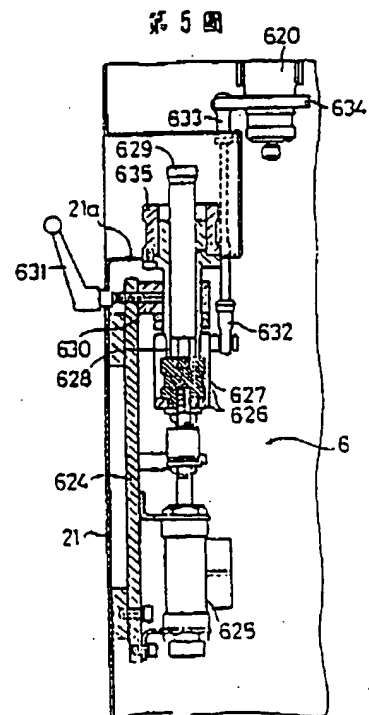
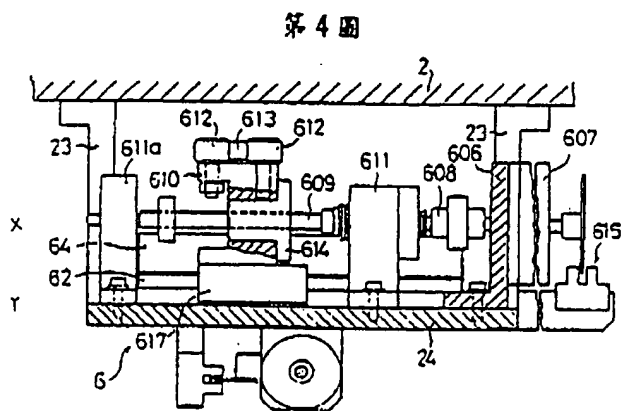
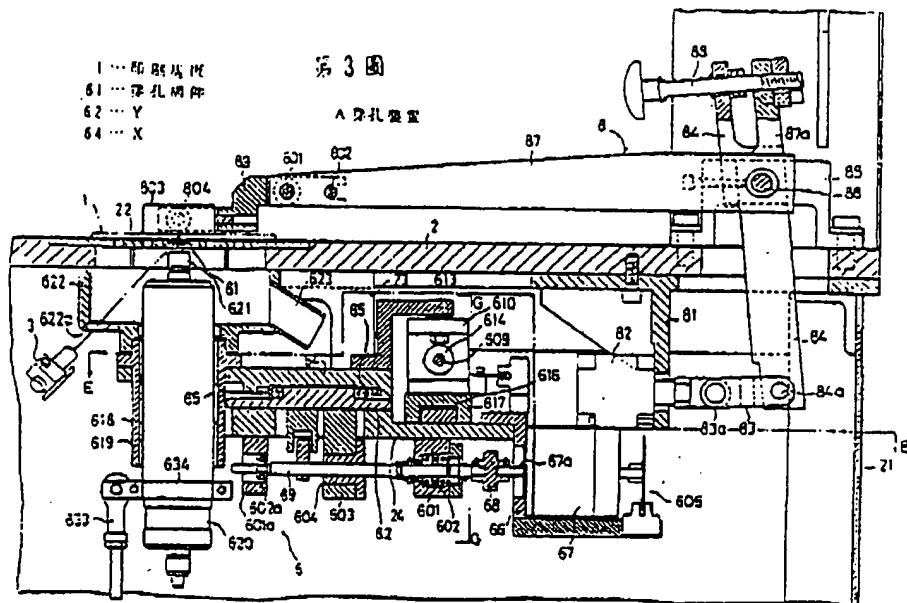
第 8 圖係說明印刷基板之局部解剖平面圖。

第 9 圖係說明標準量規之局部解剖平面圖。

第 10 圖至第 13 圖係說明演算回路之算出例之說明圖。

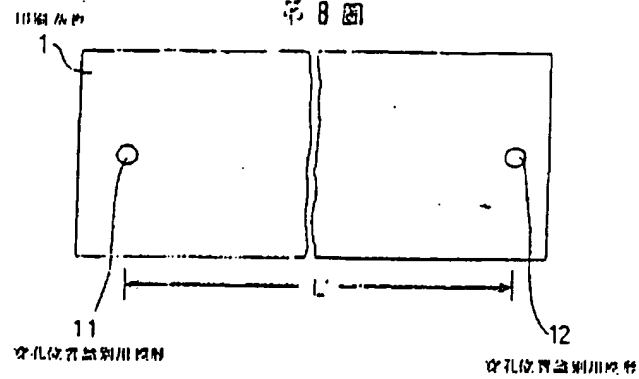


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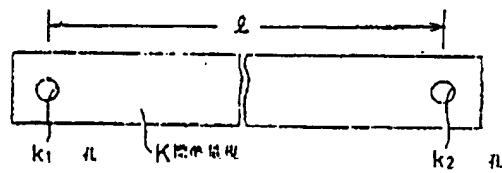


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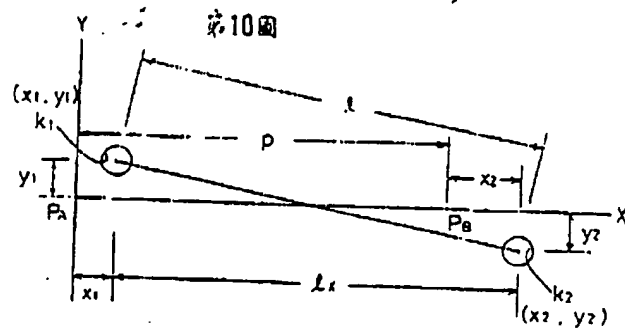
花 8 圖



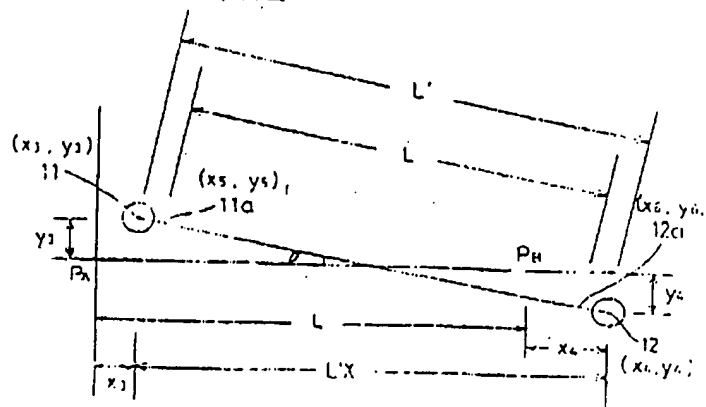
第 9 圖



第10圖



第11圖



DECISION OF REJECTION

1. Application Number: 090100355

International Patent Classification 7th version: B26F 1/04, 1/02, B26D 7/26

2. Title of the Invention: Punching Apparatus and Punching Unit Thereof

3. Applicant: Yamaha Corporation

Address: Japan

4. Attorney: Chen Chang Bun

Address 7th floor, 201, Tun hua N. Road, Taipei 105, Taiwan R.O.C.

5. Filing Date: 2001/01/08

6. Priority: 1 Japanese Patent Application 2000-00955

filing date 2000/01/18

7. Examiner: Hwa Chen Shon

8. Reason of Rejection

The Text: This Application should be rejected

Basis of Rejection: Taiwan Patent Law, Article 19 and Article 20, Paragraph 2

Reasons:

- i. The punching unit of the PUCHIG APPARATUS AND THE PUNCHING UNIT THEREODF consists of a punch unit, a die, and fitting jig for positioning the punch and die with respect to each other, and punches a hole at a predetermined location on a work by means of a punch integrated into any one of a moving part of a press working machine and a supporting part of the press working machine and a die integrated with the other one of the moving part and the supporting part, wherein each of the punch and the die has plurality of planes to be fitted with datum planes of a fitting jig.
- ii. The punching apparatus and punching unit for punching a hole at a predetermined location on a work of the present application are generally adopted for punching apparatus for circuit board and are same as prior arts such as the cited Taiwan Patent Publication No. 183300. The present application improves the layout of the punch and the die, however this improvement is just an modification of a conventional punching apparatus and the technique which is adopted in the present application is obvious to a skilled person and is not an advanced technical creation.

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- iii. As explained above, the present application is merely an improvement of the conventional punching apparatus and is not an advanced technical creation, therefore a person having an ordinary skill in the art can easily accomplish the present invention.

Because the present application lacks of patentability, the Taiwan Patent Office rejects the present application basis of the Taiwan Patent Law, Article 19 and Article 20, Paragraph 2.

The chief of the Taiwan Patent Office

67673 HUL

正本

經濟部智慧財產局專利核駁審定書

受文者：山葉股份有限公司（代理人：陳長文先生）

地址：台北市敦化北路二〇一號七樓

發文日期：中華民國九十一年一月二十四日

發文字號：（九一）智專二（四）05053字
第〇九一八三〇〇一三六七號

一、申請案號數：〇九〇一〇〇三五五

二、發明名稱：穿孔裝置及其穿孔單元

三、申請人：

名稱：山葉股份有限公司

地址：日本

四、專利代理人：

姓名：陳長文先生

地址：台北市敦化北路二〇一號七樓

五、申請日期：九十年一月八日

六、優先權項目：1 2000/01/18 日本 2000-009555

七、審查人員姓名：顏政雄 委員

專利分類IPC(7)：B26F 1/04, 1/02, B26D 7/26



八、審定內容：

主文：本案應不予專利。

依據：專利法第十九條暨第二十條第二項。

理由：

(一) 本案「穿孔裝置及其穿孔單元」，穿孔單元係包含一衝頭、一衝模以及一用以將衝頭與衝模彼此定位之配合上模，用於穿孔之穿孔裝置中，係藉由一連結在一衝壓工作母機之可動部分及支撐部分之其中任一者上之衝頭，以及一連結在衝壓工作母機之可動部分及支撐部分之其中另一者上之衝模，每一衝頭及衝模具有複數個平面，可以一配合工模之基準平面相配合，而在工件預定位置上衝設出一開孔。

(二) 按本案所運用於工件預定位置穿孔之穿孔裝置及其穿孔單元，已普遍使用於基板穿孔裝置上，乃業者慣用之既有技術，如附件引證第一八三三〇號公告案所示；本案雖然在衝頭及衝模之空間配置上有所改善，惟僅係既有穿孔裝置之改良，其所運用之技術原理乃屬習知，並非高度技術之創新。

(三) 綜上所述，本案僅係既有裝置之改良，乃運用申請前既有之技術，而為熟習該項技術者所能輕易完成者，並非高度技術思想之創作，難符發明專利要件。

據上論結，本案不符法定專利要件，爰依專利法第十九條暨第二十條第二項，審定如主文。

局長 陳明邦

依照分層負責規定授權單位主管決行

如不服本審定，得於文到之次日起三十日內，備具再審查理由書一式二份及規費新台幣陸仟元整（專利說明書及圖式合計在五十頁以上者，每五十頁加收新台幣五百元，其不足五十頁者以五十頁計），向本局申請再審查。